

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY


(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 03 MAY 2006

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Applicant's or agent's file reference INT1131/MAJR	<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. PCT/ZA2005/000005	International filing date (day/month/year) 19.01.2005	Priority date (day/month/year) 26.01.2004	
International Patent Classification (IPC) or national classification and IPC INV. F42D1/20 F42D3/04			
Applicant [TOTA, Edward Walenty et Al.] <i>NxCo International Limited</i>			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau a total of 2 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input checked="" type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand  10.08.2005		Date of completion of this report  03.05.2006	
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016		Authorized officer  Menier, R  Telephone No. +31 70 340-4405	



**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/ZA2005/000005

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**Box No. I Basis of the report**

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1. With regard to the **language**, this report is based on

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of:
  - ☐ international search (under Rules 12.3(a) and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4(a))
  - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the **elements**\* of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

**Description, Pages**

1-10 as originally filed

**Claims, Numbers**

1-7 received on 10.08.2005 with letter of 10.08.2005

**Drawings, Sheets**

1/2, 2/2 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

4. ☒ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☒ the claims, Nos. 1
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
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International application No.  
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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	5-6
	No: Claims	1-4,7
Inventive step (IS)	Yes: Claims	
	No: Claims	1-7
Industrial applicability (IA)	Yes: Claims	1-7
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

- 1 The following objections will be raised in the present communication:

The amendments received on 10.08.05 introduce subject-matter which extends beyond the content of the application as filed, contrary to Article 34(2)(b) PCT.

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1-4 and 7 is not new in the sense of Article 33(2) PCT.

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 5-6 does not involve an inventive step in the sense of Article 33(3) PCT.

- 2 Reference is made to the following documents:

D1: WO0060301 A

D2: DE3546393 C

D3: G2031561 A

- 3 The amendments received on 10.08.05 introduce subject-matter which extends beyond the content of the application as filed, contrary to Article 34(2)(b) PCT. The amendments concerned are the following:

- 3.1 The applicant has deleted the following feature in independent claim 1:

"by means of first and second caps which are positioned in a bore of the tubular body"

- 3.2 This feature is presented as essential in the disclosure of the invention since it was originally in former independent claim 8. Furthermore, all the embodiments described in the application have this feature. The deletion of this feature requires modification of other features to compensate for this deletion.

3.3 Therefore, the deletion of this feature introduces subject-matter which extends beyond the content of the application as filed, contrary to Article 34(2)(b) PCT. In the rest of the communication, independent claim 1 will be examined with its original wording, that is to say the wording of former independent claim 8.

4 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of independent claim 1 is not new in the sense of Article 33(2) PCT.

The document D1 discloses (the references in parentheses applying to this document) a rock breaking cartridge (10) which includes a tubular body (48+50), an enclosure (16) which is defined inside the tubular body (48+50) by means of first and second caps (56,26) which are positioned in a bore of the tubular body (48+50), a propellant (18) inside the enclosure (16), a stemming device (38+60) which is positioned inside the tubular body (48+50) and which, upon activation, expands a portion of the tubular body (48+50) in a radial sense, the stemming device (38+60) being spaced from the enclosure (16), and a filler (14) inside the tubular body (48+50) between the enclosure (16) and the stemming device (38+60) (p.7, l.21-p.10, l.5; fig.3).

5 Dependent claim 2-7 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty or inventive step, the reasons being as follows:

5.1 The features of dependent claims 2-4 are known from D1 (p.9, l.31-p.10, l.5; fig.3).

5.2 The features of dependent claim 5 are suggested by D2 (fig.1).

5.3 The features of dependent claim 6 are suggested by the combination of D1 (fig.3,14) and D3 (p.3, l.9-11; fig.3).

5.4 The features of dependent claim 7 are known from D1 (fig.3,14).

CLAIMS

1. A rock breaking cartridge which includes a tubular body, an enclosure which is defined inside the tubular body, a propellant inside the enclosure, a stemming device which is positioned inside the tubular body and which, upon activation, expands a portion of the tubular body in a radial sense, the stemming device being spaced from the enclosure, and a filler inside the tubular body between the enclosure and the stemming device.  
5
2. A rock breaking cartridge according to claim 1 wherein the stemming device includes components with relatively inclined surfaces which are relatively movable thereby to cause a portion of the tubular body in which the stemming device is located to expand radially.  
10
3. A rock breaking cartridge according to claim 2 wherein the tubular body is weakened to facilitate expansion thereof by the stemming device.
4. A rock breaking cartridge according to claim 3 wherein the tubular body is split at least in a longitudinal sense thereby to define at least one portion of the tubular body which is readily expansible in a radial sense upon activation of the stemming device.  
15
5. A rock breaking cartridge according to claim 2 which has two wedge-shaped components which form a substantially cylindrical body which is positioned inside the tubular body with a relatively close fit with a large face of one component facing the filler.  
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6. A rock breaking cartridge according to claim 2 wherein the stemming device includes at least a first component which defines a wedge-shaped cavity, a wedge-shaped barrel in the cavity and a thread mechanism which draws the barrel into the cavity to expand the at least first component radially.

5 7. A rock breaking cartridge according to any one of claims 2 to 6 wherein one component has a groove in an outer surface which accommodates a lead wire which extends to an igniter in the propellant.